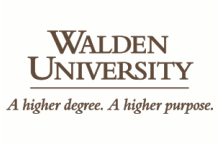

2020

The Relationship between Emotional Intelligence and Assessment Technology Institute NCLEX- RN Predictor Score

Debra Ann Wallace
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This is to certify that the doctoral dissertation by

Debra Ann Wallace

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

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2020

Abstract

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by

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MSN Walden University 2009

BSN, Pennsylvania State University, 2001

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Nursing

Walden University

August 2020

Abstract

The ability to pass a rigorous nursing curriculum and subsequently pass the National Council Licensing Examination for Registered Nurses (NCLEX-RN) exam is a requirement for nursing students to enter the nursing profession. Test anxiety may lead students to perform poorly on exams but emotional intelligence (EI) may buffer stress, improve communication, decrease anxiety, and improve nursing performance. The purpose of this descriptive, correlational study, guided by the EI theory, was to determine if there was a relationship among EI, the ATI -RN Comprehensive Predictor score, and first time pass rates on the NCLEX-RN among registered nurses who had graduated from an associate degree nursing program within the past 12 months. Emails were sent to 16,812 RNs from Ohio and Florida and posted on several social media sites. A total of 80 RNs ranging in age from 25-44 years completed the Schutte Self-Report EI survey. Data were analyzed using multiple linear regression which revealed that there was no statistically significant relationship between associate degree RNs who graduated within the past year and had completed the ATI-RN NCLEX predictor exam and EI. Future research could include a mixed method research design to investigate common themes of nursing students about EI and include participants from other types of nursing programs. Findings from the current study may provide nursing program administers with information to assist students in passing important exams such as the NCLEX.

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Dedication

I would like to thank my husband and children for encouraging me during this lengthy process. Brittany Mae, thank you for calling me saying “I want to talk to Dr. Wallace”. Those words kept me motivated. Thank you to my son Brandon who always helped with any technical difficulties. Most of all thank you for the patience my entire family extended to me during my journey. I also dedicate this dissertation to my mother who always emphasized the importance of education and to always be kind to everyone.

Acknowledgments

I would like to thank Dr. Hussey and Dr. Hull for enduring me during this process. I had many obstacles to overcome but you both kept pushing me to finish the journey. Thank you for not giving up on me. .

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Chapter 1: Introduction to the Study

Introduction

The Bureau of Labor Statistics (2015) anticipates a need, by the year 2022, for 1.05 million Registered Nurses (RNs). The rising need for RNs is related to the aging baby boomers and an increasing need for healthcare (American Association of Colleges of Nursing, [AACN], 2017). To meet the increasing demand for RNs, enrollment in Associate Degree in Nursing (ADN) programs has increased over the past 10 years (Buerhaus, Auerbach, & Staiger, 2014). With this increase in nursing student enrollment, nurse educators are concerned about admitting students who are qualified to enter the program, can complete the required classes, and can pass the National Council Licensure Examination for RNs (NCLEX-RN) on the first attempt. I examined the relationship among emotional intelligence (EI), the Assessment Technology Institute (ATI) NCLEX-RN Comprehensive Predictor score, and first time NCLEX-RN pass rates (FTPRs).

The EI concept has been studied in various fields, but to date, no research had been done to establish a relationship with the ATI NCLEX-RN Comprehensive Predictor score and NCLEX-RN FTPRs. Understanding how EI impacts the success of the nursing students may contribute to a positive social change by helping students attain a career that serves the health care needs of the community and providing a financially rewarding income for the student. This research could influence nursing education because it will demonstrate how EI can contribute to the success of students. Once a student graduates and passes the NCLEX-RN, he/she has the potential to contribute to the nursing

profession by entering the workforce, thus, improving the community in which he/she lives.

In Chapter 1, I summarized the research literature related to EI, described the gap in knowledge related to the effect of EI in nursing education, and explained why the study needed to be done. The problem statement, the purpose of the study, the research question, and the theoretical framework for the study are also discussed in Chapter 1. This chapter closed with a rationale for the design of the study, the key variables, and a summary of the methodology used.

Background of the Study

Being able to use critical thinking skills while controlling emotions is an essential element of nursing practice. A student's anxiety level may create a barrier to the mental processes required for problem-solving. Anxiety can be especially high during testing. Much research has been conducted about interventions to help students manage test anxiety. Test anxiety is defined as a specific form of academic anxiety that results in a negative impact on a student's ability to concentrate and perform while being evaluated (Beggs, Shields, & Janiszewski-Goodin, 2011; Cassady, 2010; Powell, 2004). The adverse effects of test anxiety described in the literature include (a) increased stress levels resulting in anxiety, (b) a poor self-esteem c) increased cheating on tests, and (d) decreased motivation (American Psychological Association [APA],2010; Beggs et al., 2011; Holland, Gosselin, & Mulcahy, 2017; Markman, Balik, Braunstein-Bercovitz, & Ehrenfeld, 2011; Powell, 2004). Nursing students take many tests while they are in school but some tests may cause a higher level of anxiety, especially the ATI RN

Comprehensive predictor exam, and the NCLEX-RN EXAM, which may heighten test anxiety because of the fear of failing and the importance of the exam for career advancement. The ATI RN Comprehensive Predictor is an exam used by nursing school personnel and nursing school students to predict success on the NCLEX-RN exam ("ATI Comprehensive Predictor Exam," 2015). The NCLEX-RN exam is the national test given by the National Council of State Boards of Nursing (NCSBN) to candidates who have completed a registered nursing program. Passing the NCLEX-RN exam is mandatory to receive a nursing license (NCSBN, 2017). The student's anxiety level on high stakes exams such as the ATI NCLEX-RN Comprehensive Predictor RN and the NCLEX-RN may create a barrier to the mental processes required for problem-solving (Beggs et al, 2011). Test anxiety may lead students to choose incorrect answers without using their metacognitive skills (Beddoe & Murphy, 2004). Test anxiety can sabotage a student's success, interfering with the ability to think clearly and retain the knowledge they studied (Edelman & Ficorelli, 2005). During testing, stress disrupts mental clarity essential for successful results (Beggs, Shields, & Janiszewski-Goodin, 2011). Students taking high-stakes tests, such as the ATI-RN Comprehensive Predictor and the NCLEX-RN, must control emotions and avoid impulsiveness during test taking (Edelman & Ficorelli, 2005). The ability to effectively control emotions and impulsiveness may be linked to the level of an individual's emotional intelligence. The EI concept has been the topic of a myriad of research in the education and psychology fields. Mayer and Salovey (1990), pioneers in the field, define EI as a subset of social intelligence that includes the ability to

understand one's emotions. EI may help nurses manage test anxiety in school and for licensure and may also translate to be a better clinician.

Problem Statement

The NCLEX-RN is the national test given by the NCSBN to candidates who have completed a registered nursing program. NCLEX-RN FTPRs provide a quality indicator of a nursing program (Lown & Hawkins, 2017). When pass rates fall below 80%, schools are placed on provisional status by the state board of nursing and are at risk of losing approval status by state regulatory bodies (Trofino, 2013). NCLEX-RN pass rates are equally important to nursing students that have invested time and money to attend school and are waiting to enter the work force as a registered nurse. A failure of the NCLEX-RN exam has financial and emotional implications for the student (Roa, Shipman, Hooten, & Carter, 2011). Therefore, finding a way to increase pass rates on the NCLEX-RN will benefit nursing programs and each nursing student who takes the exam.

One way to help nursing students decrease anxiety and the stress of taking exams is to examine the effects of emotional intelligence on performance. The literature has revealed that higher levels of EI buffer stress, improve communication, decrease anxiety, and improve nursing performance (Augusto Landa & López-Zafra, 2010; Beauvais, Brady, O'Shea, & Griffin, 2011); Ezzatabadi et al., 2012; John & Al-Sawad, 2015; Kaur & Jiwan, 2014; Newton, Teo, Pick, Ho, & Thomas, 2016; Rice, 2015; Shanta & Gargiulo, 2014; Zhang et al., 2016).

Fernandez, Salamonson, and Griffiths (2012) surveyed 81 students at a large university in Australia to examine the association between EI, learning strategies, and the

influence of each on academic performance among first-year accelerated nursing students. To examine the predictors of academic performance and EI, Fernandez et al. (2012) performed a stepwise multiple regression analysis using data from Trait Emotional Intelligence Questionnaire-Short Form which revealed a positive correlation between EI and academic performance. These results were congruent with Thomas, Cassady, and Heller's (2017) and Sharon and Grinberg's (2018) findings that high levels of EI increased academic performance. Fernandez et al. (2012) suggested that attending to EI is relevant for nurse educators and consideration should be given to implementing strategies that develop emotional intelligence in nursing students. Further research regarding EI could lead to interventions that will assist nursing students in achieving success in the classroom and the workplace. Furthermore, attendance to EI may provide nurse educators with additional insight into a student's self-awareness, which Harrison and Fopma-Loy (2010) identified as the foundation for a higher level of emotional awareness. Although there is much research examining what contributes to academic performance, no research exists about how EI influences the results of the ATI RN Comprehensive Predictor score and NCLEX-RN FTPRs.

Further research is needed to establish if there is a relationship between the measurement of EI and proficient predictor scores for senior level nursing students taking the NCLEX-RN predictor test and FTPRs for the NCLEX-RN. This research is unique in that it examines the relationship of EI and the two variables of the ATI NCLEX RN 2016 Comprehensive Predictor scores and FTPRs on the NCLEX-RN. The ability of a nursing student to pass a rigorous nursing curriculum and subsequently pass the NCLEX-RN

reflects the academic integrity of nursing schools. The ability of a nursing student to pass a rigorous nursing curriculum and subsequently pass the NCLEX-RN exam reflects the academic integrity of a nursing program and ensures that the student possesses the knowledge necessary to be a safe and effective nurse (Davis, 2016; Foreman, 2017; Kaddoura, Van Dyke, & Yang, 2017).

Purpose of the Study

The purpose of this study was to determine if there is a relationship among EI, the ATI -RN Comprehensive Predictor score, and FTPRs on the NCLEX-RN among ADN'S who have graduated within the past year. The predictor variable was EI. The outcome variables were ATI -RN Comprehensive Predictor score and FTPRs on the NCLEX-RN. EI.

Research Question and Hypotheses

Research Question 1: What is the relationship between EI and proficient ATI-RN Comprehensive Predictor scores and NCLEX-RN FTPRs among ADN'S who have graduated within the past year?

$H_{0:}$ There is no relationship between EI, proficient ATI-RN Comprehensive Predictor scores and NCLEX-RN FTPRs with RNs who have graduated within the past 12 months.

$H_{1:}$ There is a relationship between EI, proficient ATI-RN predictor scores, and NCLEX-RN FTPRs with RNs who have graduated within the past 12 months.

The two outcome variables are the ATI- NCLEX-RN predictor score and the NCLEX-RN FTPRs. The NCLEX-RN provides a test to determine if a candidate is safe

to practice as a registered nurse. EI is the predictor variable and will be measured using the Schutte Self-Report Emotional Intelligence test (SSEIT) which will be administered online to ADNs who have graduated within the past 12 months. Scores from the ATI RN Comprehensive Predictor exam and the participants' NCLEX-RN results will also be part of data analysis.

Theoretical Foundation

Mayer and Salovey's (1990) Emotional Intelligence Theory (EIT) will be the framework for my study. EI has been conceptualized as actual cognitive abilities that involves managing emotions, perceiving other's emotions, facilitating thought using emotion, and understanding emotions.

The concept of EI consists of four domains: (a) self-awareness, (b) facilitating thought (c) understanding emotions, and (d) managing emotions (Salovey & Mayer, 1990). The self-awareness and the management of emotions domain includes competencies necessary for successful learning (Salovey & Mayer 1990). Self-awareness involves the skills of knowing one's strengths and limits and having a sense of one's self-worth (Salovey & Mayer, 1990). The managing domain includes the following competencies: (a) controlling emotions that can be distracting, (b) exhibiting characteristics of trustworthiness, (c) demonstrating responsibility of actions, (d) adapting to different situations, (e) achieving excellence, and (f) ambition (Salovey & Mayer, 1990). Further details explaining each of these abilities will be outlined in Chapter 2.

Nature of the Study

A quantitative correlational research design is the most appropriate design for the proposed problem statement. The EI score will be compared to the ATI RN Comprehensive Predictor score. The predictor variable for my study is EI. The outcome variables include the ATI RN Comprehensive Predictor score and NCLEX-RN pass rates. EI will be measured using the SSEIT, which will be administered online to RNs who have graduated within the past year from an ADN program.

I will use a simple regression analysis for this study. According to Fields (2015), the simple regression method provides a linear model to the data and to predict an outcome from a single predictor; in contrast, multiple regression would predict from several predictors. This research has only one predictor variable which is the EI score that will be obtained from the SSEIT.

Definitions

Assessment Technology Institute Predictor Score: The ATI Comprehensive Predictor Exam is used by nursing school personnel and nursing school students to predict success on the NCLEX. ("ATI Comprehensive Predictor Exam Predictor," 2015).

Critical thinking: This term is defined as the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action. (The Foundation for Critical Thinking, n.d.).

Emotional intelligence (EI): This is defined as "the ability to perceive emotions, to access and generate emotions to assist thought to understand emotions and emotional knowledge, and to reflectively regulate emotions to access to promote emotional and intellectual growth" (Salovey & Sluyter, 1997, p. 5.)

High Stake Tests: According to according to the American Educational Research Association (AERA), American Psychological Association (APA), and National Council on Measurement in Education (NCME) (as cited in Spurlock, 2006) a high-stakes test is "a test used to provide results that have important, direct consequences for examinees, programs, or institutions involved in the testing" (p. 298).

First time NCLEX –RN performance: candidates who have graduated from an accredited nursing program and have successfully passed the NCLEX-RN licensure exam on the first attempt.

Schutte Self Reported Emotional Intelligence Score: This is a 19-item self-rating on a Likert-type scale ranging from 1 (*Very inaccurate*) to 5 (*Very accurate*).

Test anxiety: The effects of anxiety on student concentration and performance before the examination, when anxiety hinders examination preparation (Powell, 2004).

Assumptions

The assumptions of my study are: (a) a high level of emotional intelligence is a desirable characteristic of nursing students, (b) EI is an essential component of nursing practice, it is desirable that emotional competence be learned and developed, (c) self-awareness is needed for higher level emotional competence and (d) participants will answer the EI questionnaire honestly and that nursing students desire the ability to

control their anxiety to be successful in taking tests such as the ATI RN Comprehensive Predictor or NCLEX-RN.

Scope and Delimitations

My study was a correlational, quantitative study which focused on obtaining EI data from RNs who graduated from an ADN nursing program within the last year and have taken the ATI RN Comprehensive Predictor, and the NCLEX-RN. The ATI RN Comprehensive Predictor is given during the final semester of the nursing program. I will administer the online version of the SSEIT which aligns with the purpose of the study. Participation is limited to those who have graduated from an ADN program within the last year, have taken the ATI RN Comprehensive Predictor, and have taken the NCLEX-RN. Many students begin their nursing education with an ADN program. Despite a movement by the Institute of Medicine (2010)(to have 80% of newly graduated nurses BSN prepared by 2020 there has been a rapid increase in ADN programs during the past 10 years (Buerhaus, Auerbach, & Staiger, 2014). This study will not include BSN students since ADN programs are the most common education path for entry-level RN's (Buerhaus, Auerbach, & Staiger, 2014). The factors being investigated in this research may be relevant in future research with BSN students considering the movement toward BSN prepared nurses.

Emotional Intelligence Theory was chosen for this study because it focuses on four main areas: (a) perceiving emotions, (b) facilitating thought through emotion, (c) understanding emotions, and (d) managing emotions. The abilities are all pertinent to nursing performance and influence how a student will respond while taking a test. Other

models emerged from Salovey and Mayer's Ability Model (1990)such as The Bar-On Model (1988), Goleman's model of EI (1995), and the Trait EI model (Cherniss, 2010). The Bar-On model focuses on identifying traits and skills that assist people to adapt to social and emotional demands of life, whereas Goleman's (1995) model focuses on workplace social and emotional competencies (Cherniss, 2010). Petrides (2010) identifies that the Trait EI model focuses on personality traits versus competencies or mental abilities. Considering that EI is a relatively new concept, Mayer and Salovey's model (1990) best represents EI because of the focus on cognitive function. Therefore, this was the most appropriate theory to choose for my study.

Because EI develops over time, an experimental design that would include students taking part in a workshop that focuses on enhancing EI, was not chosen because of students' time constraints during the final semester of school. The results of my study will be generalizable only to a similar population of participants who attended a similar type of nursing program and completed the ATI RN Comprehensive Predictor and have completed the NCLEX-RN.

Limitations

There are certain limitations to this proposed study which include using only participants who have taken the ATI RN Comprehensive Predictor. The study is also limited to RNs who have graduated from an ADN nursing program within.one year. A potential threat to internal validity is the instrument being used. Any instrument could give different results, even when the variable itself has not changed (Thompson & Panacek, 2007). The target population in this study will include participants who have

graduated from an ADN program within the past year, have completed the ATI RN Comprehensive Predictor, and have taken the NCLEX-RN exam. Both the ATI Comprehensive predictor score and the NCLEX-RN results will be self-report data. There is a potential limitation of obtaining information if the participant does not recall their ATI RN Comprehensive Predictor score. Hence, the results could not be generalized but rather suggested.

Because the ATI-RN Comprehensive Predictor exam does not affect a nursing student's final course grade or graduation, the participants may not have regarded the exam as important. Therefore, the results of my data analysis could be affected because results may be based on ATI Comprehensive Predictor Exam results that may not produce a true relationship.

Significance of the Study

Significance to Theory

The association between higher levels of EI, the ATI-RN Comprehensive Predictor score, and NCLEX-RN FTPRs will advance the empirical evidence of EI. The importance of EI has been researched in a variety of areas. This study will expand on how Mayer and Salovey's Theory of EI (1997) relates to a student performance on the ATI-RN Comprehensive Predictor score and NCLEX-RN FTPRs. Using the theory of EI will provide the lens to explain the importance of understanding's one's emotions and managing emotions in relation to test performance.

Significance to Practice.

The need for nurses is increasing while the number of available nurses for employment decreases (Snavely, 2016). Part of the reason for decreased numbers of available nurses for employment is the inability to pass the NCLEX-RN. Failure of the NCLEX-RN exam has an emotional and financial impact on the student (Roa, Shipman, Hooten, & Carter, 2011). In 2016, 18.32% of graduates of Associate degree nursing programs failed the NCLEX-RN on the first attempt ("2016 NCLEX Pass Rates," n.d.). Establishing a correlation between EI scores, the ATI-RN Comprehensive Predictor score, and NCLEX-RN FTPRs with ADN RNs who have graduated within the last year may provide nurse educators with evidence that EI can influence test taking skills, therefore, contributing to their academic success. Implementing strategies to develop EI early in the education process may contribute to the success of nurses and provide a workforce of nurses who are equipped to meet the challenges of health care. Ahmadpanah et al. (2016) found that of 200 university students, EI traits were associated with lower test anxiety scores suggesting that strategies to help students develop interpersonal and intrapersonal skills may reduce test anxiety. The results of this study may influence future researchers to create EI supporting strategies that may help students more effectively manage test anxiety.

Significance to Social Change.

Understanding how EI impacts the success of the nursing students will contribute to positive social change by providing a career that serves the health care needs of the community while sustaining a financially rewarding income for the nurse. The nursing

profession requires the student to acquire technical skills and the ability to provide psychological support to patients, further supporting the need for EI training to begin as a nursing student (Augusto Landa & López-Zafra, 2010). The results of this research may influence nursing education because if it demonstrates a positive and statistically significant relationship between EI and student success. Once nursing students graduate and pass the NCLEX-RN exam, they contribute to the nursing profession by entering the healthcare workforce, thus, have the potential of improving the quality of health in the community in which they live.

Summary

Understanding what helps students succeed in nursing school is essential for nurse educators. Many studies have demonstrated how EI can buffer stress, decrease anxiety, promote effective communication, and improve nursing performance (Augusto Landa & López-Zafra, 2010; Birks, McKendree, & Watt, 2009; Harper & Jones-Schenk, 2012; John & Al-Sawad, 2015; Newton et. al, 2016; Por, Barriball, Fitzpatrick, & Roberts, 2011) but research has not focused on the impact EI may have on the ATI NCLEX-RN Comprehensive predictor score or NCLEX-RN FTPRs. This study explored the influence of EI with the ATI NCLEX RN 2016 Comprehensive Predictor score and NCLEX-RN FTPRs. Chapter 1 provided the background of the importance of academic performance and how EI is related to academic success. Chapter 2 contains an in-depth review of the theory of EI, analysis, synthesis, and synthesis of the literature.

Chapter 2: Literature Review

Introduction

The ability to pass a rigorous nursing curriculum and subsequently pass the NCLEX-RN exam is a primary objective for nursing schools and nursing students. In 2016, over 200,000 nursing school graduates became candidates for the National Council Licensure Examination for RNs (NCLEX-RN). Simon, McGinniss, and Kraus (2013) identified that 3,000 candidates failed to pass the NCLEX-RN. The number of students who are not successful with the NCLEX-RN on the first attempt has increased since 2012, with a slight decrease in 2015 and 2016 (NCSBN 2016 NCLEX Examination Statistics, 2017). In response to these failure rates, many nursing schools have implemented standardized testing to promote NCLEX-RN success (Alameida et al., 2011; McCarthy, Harris, & Tracz, 2014). Passing the NCLEX has financial implications for students as well as for nursing schools (Robert, 2018). The NCLEX results influence a school's reputation, licensure, and accreditation (Davis, 2016; Foreman, 2017; Kaddoura Turner, & McCarthy, 2017; Pennington & Spurlock, 2010). Additionally, standardized testing such as ATI Comprehensive Predictor has played a vital role in helping faculty identify students who are at risk of failing the NCLEX-RN exam, thereby allowing for early remediation (Homard, 2013; Kaddoura et al., 2017).

Although multiple studies have been conducted to isolate and predict factors associated with the NCLEX-RN pass rates, few studies have addressed the role of emotional intelligence in student academic performance. *Emotional intelligence* is defined as the ability to perceive emotions, facilitate thought using emotion, understand

emotions, and manage emotions (Salovey & Mayer, 1990).. The purpose of this study was to examine the relationship between emotional intelligence, the ATI Comprehensive Predictor score, and performance on the NCLEX-RN exam. The chapter begins with a search strategy and includes the theoretical lens that will be used to guide this study. Additional topics include a comprehensive synthesis of the literature on studies addressing factors predicting success on the NCLEX-RN exam.

Literature Search Strategy

Literature obtained for this review was retrieved using electronic Cumulative Index to Nursing and Allied Health Literature (CINAHL), ProQuest, ERIC, EBSCOhost, and Electric Journals Service (EJS.) The literature acquired was composed from an array of research articles published from 1990-2017. These years were selected to yield the seminal research and the most current studies of emotional intelligence (EI), specifically, how EI impacts nursing students. Databases were searched using key terms of *emotional intelligence, test anxiety, stress, nursing students, associate degree nursing students, NCLEX-RN predictors, Assessment Technology Institute, and nursing performance*. Eliminating research articles was conducted if studies were not relevant to nursing students. The chosen articles were analyzed and summarized. Research studies totaling 56 were utilized for the commencement of this literature review.

Theoretical Foundation

Emotional Intelligence Theory

EI is defined as " the subset of social intelligence that involves the ability to monitor one's own and others' feeling and emotions, to discriminate among them, and to

use this information to guide one's thinking and actions" (Salovey and Mayer, 1990, p.189). The theory of EI has been used to understand a person's emotions and effectively interpret the emotions of others (Salovey & Mayer, 1990). To understand the impact EI has among nursing students, it is necessary to examine the concepts of emotions and intelligence.

Emotions. Nursing students encounter a variety of emotions from patients, families, other healthcare workers, and within themselves. Emotions are affective episodes that create a short-term state of feeling such as happiness, anger, or fear creating bodily changes that are felt (Mulligan & Scherer, 2012; Salovey& Sluyter, 1997). This definition aligns with the assertions of Salovey and Mayer (1990) that emotions are organized responses resulting from a response to an event that can be internal or external. Emotions are synonymous with moods; however, emotions are shorter and more intense (Mandler, 1984; Salovey & Mayer, 1990). Previous research about EI may provide the conceptual framework to guide studies concerning emotional phenomena (Parrott, 2002). Salovey and Mayer (1990) argued that emotions are adaptive and can lead to a transformation in personal and social interactions. Therefore, managing emotions may provide a sense of control and may influence how people interact with others and in various situations, e.g. taking a test. In a descriptive correlational study, Jones-Schenk and Harper (2014), compared the EI of 116 potential nursing students and 42 staff nurses and found that higher levels of EI and stress tolerance were associated with successful completion of nursing programs. How nursing students manage their emotions, especially in stressful situations, may affect their successful completion of a nursing program and

later impact how they communicate with patients, families, and other healthcare workers Further research regarding the impact and strength of the relationship of EI on nursing students is warranted.

Intelligence. Intelligence is the ability to carry out abstract reasoning and to understand concepts that are different and similar (Mayer et al., 2016) and includes a broad set of abilities (Salovey & Mayer, 1990). During the early publications of EI, it was thought to be similar to social intelligence (Salovey & Mayer, 1990). Mayer et al. (2016) now argue that EI is part of a group of hot intelligences that includes personal and social intelligence. Hot intelligence is explained by Mayer et al. (2016) as the ability of the individual to reasonably manage what is most important to them. Mayer et al. (2016) defined personal intelligence as "the ability to reason about personality-both our own and the personalities of others, including motives and emotions, thoughts and knowledge, plans and styles of action, and awareness and self-control" (Mayer et al., 2016, p. 296). Social intelligence is defined by Mayer et al. (2016) as the ability to acknowledge social norms, customs, and expectations. All three types of intelligence involve using human cognitive reasoning, but they are different (Mayer et al., 2016). Each intelligence type involves biosocial needs of the individual as well as interactions in social groups (Mayer et al., 2016).

Emotional Intelligence. The definition of EI has evolved since its introduction in 1990. Salovey and Mayer (1990) defined EI as an extension of social intelligence that involves the skill of controlling feelings and the feelings of others and utilizing this information to guide one's thinking and actions. Salovey and Sluyter (1997) stated that

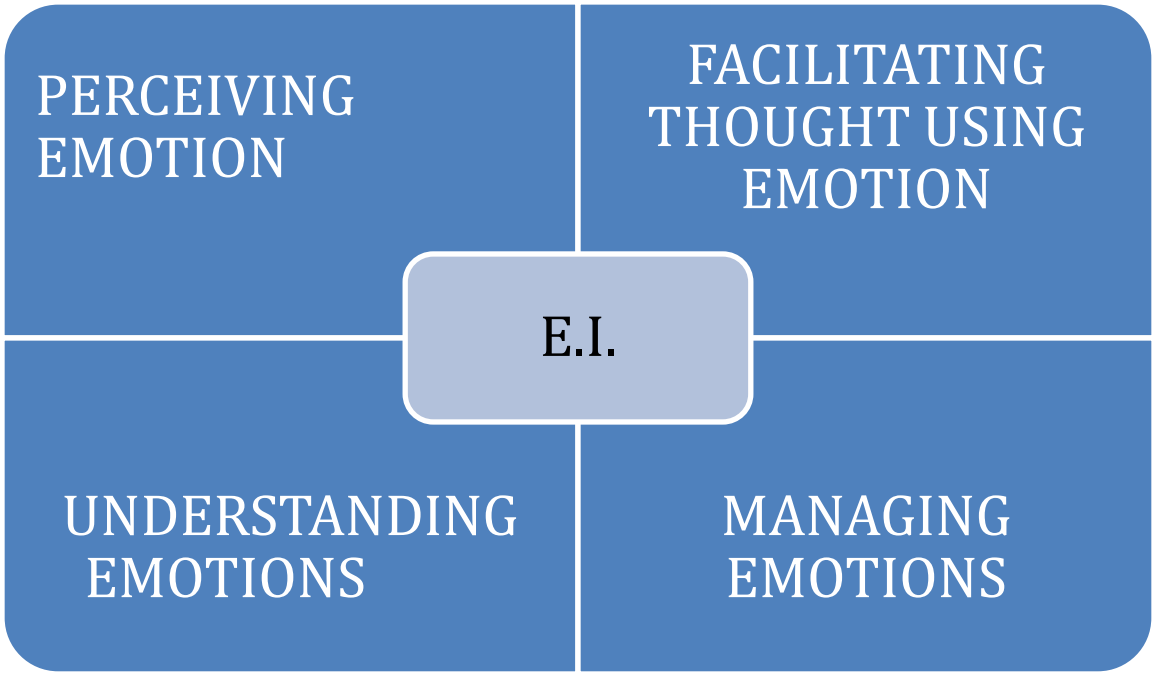
EI involves reasoning that considers emotions is congruent with Salovey and Mayer's (1990) definition of EI. Furthermore, Salovey and Sluyter (1997) explained that intelligence measures the functioning of the cognitive sphere and emotions represent the affective sphere. EI may or may not correlate with other types of intelligence, but it does correlate with the boundaries of the conceptual definitions of intelligence (Salovey & Mayer, 1990).

Ability Model of Emotional Intelligence

In 1990, Salovey and Mayer introduced the concept of EI which evolved from the intelligence theory. The original concept developed into the four branches of EI that represent problem-solving skills. Figure 1 represents the four branches of the Ability Model introduced by Salovey and Mayer (1990). A common theme among the four abilities include feelings of situational control (Gohm, Corser, & Dalsky, 2005) and lower stress levels (Mayer et al., 2016; Ruiz-Aranda, Extremera, & Pineda-Galán, 2014). Codier, Muneno, Franey, and Matsuura, (2010) conducted a mixed methodology exploratory study composed of 75 stories written by nurses about nursing. Their findings demonstrated that EI is a concept that connects with key elements such as professionalism, performance, and intuition.

Figure 1

Four branches of emotional intelligence
Adapted from "Emotional Intelligence, Imagination, Cognition and Personality," by P. Salovey and J. D. Mayer, J. D. *9,* p.185. Copyright 1990. Reprinted with permission



Perceiving Emotion in Oneself and Others

The first branch of the EI model is perceiving the emotions of others which is a skill that involves analyzing emotional expressions through nonverbal expressions and language. An essential ability of EI involves interpreting facial expressions (Parrott, 2002) and expressing emotions in appropriate situations (Mayer, Caruso, & Salovey, 2016) (Figure 1). The ability to perceive emotions in another provides the perceiver with

information that can be helpful to the situation while providing strategies that will be more beneficial with managing the conflict (Gohm et al., 2005). For example, if a nurse perceives a sudden onset of anxiety in a patient, this situation could indicate there is a physiological reason for the patient's behavior. Because the nurse can recognize the feelings of the patient, further assessment of the patient may identify a life-threatening condition. Similarly, being able to recognize anxiety in a test taking situation, a students may be better able to control emotions throughout the test.

Facilitating Thought Using Emotion

The ability to use emotion to facilitate thought involves using reasoning to focus and think rationally (Gohm et al., 2005) and is a key element of EI (Mayer, Salovey, Caruso, & Sitarenios, 2001). According to Mayer, et al., (2016), this ability includes the expertise to prioritize thinking by directing attention according to present feelings. Gohm et al. (2005) states that recognizing emotions in others can assist in dealing appropriately with a situation which may lead to a feeling of control and a lower stress level. A person's ability to facilitate thinking begins with prioritizing thinking by focusing attention to what is important (Salovey & Sluyter ,1997). the ability to prioritize develops, the emotional state aids in problem solving approaches with inductive reasoning and creativity (Salovey & Sluyter ,1997). Facilitating thought using emotion includes the ability to recognize in one's self and thereby facilitates thought to reduce stress in a test taking situation.

Understanding Emotions

Understanding emotions is a key component of emotional intelligence (see Figure 1) and involves the ability to label emotions and interpret the meanings of the emotions (Salovey & Slyter,1997). The ability to understand emotions, the source of one's emotion, and the ability to anticipate the next emotion results in prediction and control of a situation (Gohm et al., 2005). The understanding ability begins with the capability to label emotions and evolves to understanding how emotions transition (Brackett, Rivers, Shiffman, Lerner, & Salovey, 2006; Mayer et al., 2016). The skill of understanding other's emotions contributes to improved interpersonal relationships (Salovey & Mayer, 1990). The ability to understand and empathize with patients is an important communication skill for nursing students. A student's ability to understand their emotions may provide insight into how they will manage their anxiety during test taking situations.

Managing Emotions

Self-control is synonymous with managing emotions (Figure 1). The skill of managing emotions involves managing disruptive emotions and impulses to achieve the desired outcome (www.eiconsortium.org,1998; Mayer et. al, 2016). Remaining calm, positive, and unmoved during a stressful encounter is an indicator the competency of managing emotions has been achieved (Cherniss & Goleman, 2001). Managing one's emotions is essential for nursing students to learn as patient care presents stressful events which requires that the student stay focused under pressure.

There were many studies using EI as a framework for research among various disciplines since its introduction in 1990. Beauvais et al., (2011) used EI as the

conceptual framework for their study to determine the relationship between EI and nursing performance. The authors used the Mayer–Salovey–Caruso Emotional Intelligence Test (MSCEIT) to measure EI and the Six-Dimension scale measured nursing performance. Data on 87 participants revealed that teaching/collaboration, planning/evaluation, interpersonal relations, and communication, and professional development scores were significantly correlated with emotional intelligence. They concluded that EI could be included into nursing education without major curriculum changes. Fernandez et. al (2012) used EI theory as a framework to study the relationship of EI and learning strategies and their influence on academic performance among 81 first year accelerated nursing students. The authors found a statistically significant correlation existed between EI scores and critical thinking, help seeking, and peer learning (Fernandez et.al, 2012).Lana, Baizán, Faya-Ornia, and López (2015) investigated the influence of high risk behaviors and emotional intelligence (EI) among 275 nursing students. By using a cross-sectional study, with students enrolled in a traditional 4-year nursing program, the authors showed higher EI levels represented a lower probability of high risk behaviors. The findings by Lana et al. (2015) are significant from the vantage point of correlating variables that could affect EI. Gohm et al. (2005) used the EI ability to exam the relationship with stress among 158 psychology students enrolled in a United States University. Their findings suggested that EI was useful in buffering stress for some individuals but irrelevant in others. Cerit and Besser (2014) conducted a descriptive study to establish the EI levels of 183 nursing students. They found a statistically significant

relationship between EI and grades. Specifically, EI increased critical thinking skills (Cerit & Besser, 2014).

Emotional Intelligence Theory and Nursing Students

The study of EI and its relevance to nursing practice has grown in recent years. Nurses must control emotions and conduct themselves with honesty and integrity. The literature has demonstrated a positive relationship between a high level of EI, competent nursing performance and positive academic achievements (Beauvais et al., 2011; Chan, Sit, & Lau, 2014; Fernandez, et al., 2012). Higher EI scores have been shown to buffer stress, decrease anxiety, and improve communication (Augusto Landa & López-Zafra, 2010; Birks et. al 2009; Harper & Jones-Schenk, 2012; John & Al-Sawad, 2015; Newton, et. al, 2016; Por et. al 2011). An exploratory study of nursing and medical students conducted by Chun and Park (2016) found that students' perceptions of EI can result in effective coping strategies. Harper and Jones-Schenk (2012) used a descriptive exploratory design to investigate the EI profile of successful staff nurses and discovered that successful staff nurses had either average or higher levels of EI. Basogul and Özgür, (2016) conducted a cross-sectional descriptive study of 277 nurses from a university hospital in Turkey that revealed a positive correlation between EI and effective conflict management. With the predicted need for 1.1 million new RNs by 2022, nursing faculty must ensure nurses are graduating with the knowledge and skills to fulfill this vacancy (American Nursing Association [ANA], 2014). Therefore, research could provide support to implement strategies to improve EI in academic and health care institutions (Chun & Park, 2016; Harper & Jones-Schenk, 2012; Basogul & Özgür, 2016). Empirical evidence

generated from this study could reveal the impact EI has on the success of nursing students and the nursing profession.

Literature Review Related to Key Variables and/or Concepts

Nursing Students and Emotional Intelligence

After an exhaustive review of the literature, no research was found regarding the impact of EI on a proficient Assessment Technologies Institute (ATI) predictor score, or on first-time NCLEX-RN pass rates. Scholars across varying fields agree that further research is needed regarding the impact EI has on stress, academic achievements, improved communication, and leadership skills (Benson, Martin, Ploeg, & Wessel, 2012; Birks et. al 2009; Codier, Kofoed, & Peters, 2015; Kaur & Jiwan, 2014). The major themes discovered with this literature review included empirical evidence that EI buffers stress, promotes effective communication, and improves nursing performance

EI Buffers Stress.

John and Al-Sawad (2015) conducted a descriptive correlational study to identify the sources of perceived stress and examined the relationship between the perceived stress and emotional intelligence among 135 baccalaureate nursing students. The findings revealed nursing students with a higher E.I. can regulate and express emotions and can channel negative emotions into a healthier more positive manner. Another correlational study by Por et al., (2011) measured the EI of 130 nursing students to explore their relationship with coping strategies and academic performance. A direct association between high EI and lows stress was established (Por et al., 2011) which demonstrates the potential value of developing EI for nursing students.

EI Promotes Effective Communication.

In a randomized controlled study of 85 nursing students, Meng & Qi (2018) found EI intervention may support improvement in perceived stress and communication skills. The authors demonstrated that higher levels of EI have a significant role in controlling and decreasing situational anxiety (Meng & Qi, 2018), which would include test taking situations.

EI Improves Nursing Performance.

Codier, Kooker, and Shoultz (2008) conducted a study of 36 nurses from 3 urban hospitals that measured EI, nursing performance level, and career /organizational variables. Their findings found higher levels of EI correlated with higher level of performance of staff nurses. Similar findings were found by Beauvais et al., (2011) who conducted a correlational descriptive study of 231 undergraduate and 102 graduate nursing students. Beauvais et al. (2011) found a significant correlation between total EI and total nursing performance. These findings support the idea that EI has a significant relevance for nursing students that will continue into their nursing career.

Variables that Influence First-Time -NCLEX Pass Rates

The importance of NCLEX-RN pass rates is significant for students and nursing schools (Cox-Davenport & Phelan, 2015; Fiske, 2017; Robert, 2018). The academic variables that influence NCLEX-RN pass rates have been extensively researched (Cox-Davenport & Phelan, 2015; Johnson, Sanderson, Wang, & Parker, 2017; Robert, 2018; Romeo, 2013; Trofino, 2013). These variables include pre-program factors such as GPA, Scholastic Aptitude Test (SAT) test scores, preadmission testing, such as the Health

Education Systems, Inc. (HESI) and the Test of Essential Academic skills(TEAS). Program factors such as overall nursing GPA, computer adaptive quizzes, learning styles, and critical thinking have also been identified as variables that influence NCLEX-RN first time pass rates (FTPRs). Roberts(2018) and McCarthy et.al (2014) discovered that there was a positive correlation between academic variables and NCLEX-RN FTPR's. (Johnson, Sanderson, Wang, & Parker, 2017) found similar results with Health Education Systems, Incorporated (HESI, Inc.) exit exam. These discovered the higher the student scored on the HESI exit exam, the more likely they were to pass the NCLEX-RN on the first attempt. Blozen (2016) conducted a qualitative study and found that students reported that practicing NCLEX style questions, participating in nursing clinicals, receiving support from family and professors, and an NCLEX-RN review course were associated with NCLEX-RN FTPR's. Furthermore, Lown and Hawkins (2017) examined the relationship of learning style preferences and NCLEX-RN FTPR's. Interestingly, they found that students who self-reported a high preference for group learning were at risk for failing the NCLEX-RN exam. Giddens and Gloeckner (2005) discovered that critical thinking is an important element that contributes to NCLEX-RN success. Emotional intelligence and critical thinking have similar aspects that are central to nursing practice (Dooley, Nagle, & East, 2015). Fiske (2017) cautions that variables such as grade point average (GPA) and successful course completion do not always predict that a student will pass or fail the NCLEX-RN exam. Furthermore, Fiske (2017) identified the research about nonacademic predictors such as self-efficacy, stress reduction, and improved

concentration are not as prevalent as the academic variables. Additionally, there are no studies on the effect of EI on NCLEX-RN FTPR's.

Stress and EI

Stress is a common issue among nursing students and often begins in nursing school secondary to the rigorous curriculum (Ian, Roger, & Richard, 2003; Turner & McCarthy, 2017; Watson et al., 2009). The definition of stress is, "one's perceived ability to manage the person-environment relationship" (Gohm et al., 2005, p. 1018). Lazarus and Folkman (1984), experts in stress theory, defined stress as, "A particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being" (p. 19). Hirsch, Barlem, Tomaschewski-Barlem, and Lunardi (2015) conducted a cross-sectional study which revealed that in 146 nursing students, the main contribution to stress included professional education, lack of practical knowledge, and lack of free time.

Researchers have established that higher levels of EI have been shown to buffer the effects of stress resulting in the ability to channel negative emotions into a healthier more positive response (Augusto Landa & López-Zafra, 2010; John & Al-Sawad, 2015; Newton et al., 2016; Zhang et al., 2016). Gohm et al. (2005) used Mayer and Salovey's (1997) ability model to relate EI and stress and discovered EI was not a predictor of overall lower stress. However, EI levels may assist people in managing difficult situations, which aligns with the existing theory of EI (Gohm et al., 2005). In a cross-sectional survey of 467 nursing students in China, Zhang et al., (2016) hypothesized that EI facilitates the relationship between negative life events and psychological distress.

Their findings supported the idea that EI can lessen the effect of stressful events (Kaur & Jiwan, 2014).

Further research is warranted to establish the triggers of stress and the role EI has with managing the stress of nursing students (Hirsch et al., 2015; John & Al-Sawad, 2015; Newton et al., 2016). A direct correlation between high EI scores and low-stress levels has demonstrated the potential value of helping nursing students develop EI (Por et al., 2011). Thus, several researchers have concluded that specific EI education should be embedded within the curriculum for nursing students and allied health sciences (Hirsch et al., 2015; Ng, Ke, & Raymond, 2014; Ruiz-Aranda, et.al, 2014; Gohm et al.,2005). Nurse educators can play an integral role in developing a student's EI to help manage stressful events.

Nursing Performance and EI

Nursing is a dynamic profession that requires cognitive and technical skills. For a student to progress through a nursing program, clinical competency must be validated, and a designated grade point average achieved. However, many employers are identifying a lack of clinical competency among new registered nurse graduates (Bennett, 2017; Cheng, Tsai, Chang, & Liou, 2014; Missen, McKenna, Beauchamp, & Larkins, 2016). Clinical Competency is defined as "possessing the necessary knowledge, clinical judgment, psychomotor skills, coping ability in stressful situations, and organizational and interpersonal skills to provide safe and effective care to patients" (Rice, 2015, p.207). Berman et al. (2014) reported that a competency gap exists among newly employed RNs in the areas of critical thinking, communication, clinical knowledge, managing time and

responsibilities, physical assessment, and teamwork. Rice (2015) investigated five nationally accredited ADN programs to establish the relationship between EI and clinical competency using Salovey and Mayer Theory of EI (Mayer & Salovey, 1990) and Bandura's Self Efficacy Theory (Bandura, 1977). EI was found to be a component of clinical success competency (Rice, 2015) which supports the same findings of Beauvais et al., (2011). Kaur and Jiwan (2014) discovered in their study of 150 nursing students that early identification of strengths and weaknesses of EI competencies may contribute to the success of nursing students. The empirical evidence has shown significant relevance for nursing students which will continue to be helpful throughout their career.

NCLEX-RN

The NCLEX-RN is the national test given by the National Council of State Boards of Nursing (NCSBN) to candidates that have successfully completed a registered nursing program to ensure the practitioner is a safe and effective nurse (NCSBN.org,n.d.). The NCSBN's web site states they are "dedicated to developing psychometrically sound and legally defensible nurse licensure and certification examinations consistent with current practice" (2016 NCLEX Pass Rates, n.d.). The exam is a multiple-choice, computerized, adaptive test designed to measure nursing competencies (Simon, McGinniss, & Krauss, 2013). The NCSBN reported in 2016, 18.32% associate degree prepared nurses failed NCLEX on the first attempt.

ATI-NCLEX-RN-Predictor

The ATI-NCLEX predictor score is a diagnostic tool to identify the knowledge gaps so students can remediate prior to taking the NCLEX-RN exam. The RN

Comprehensive Predictor® is a proctored assessment comprised of multiple-choice questions to help determine student's preparedness for the NCLEX (ATI Comprehensive Assessment and Review Program (CARP), n.d.). Using standardized exams, such as the ATI NCLEX predictor, has been implemented by many nursing schools to identify students at risk of not passing the NCLEX-RN exam on the first attempt. A qualitative study conducted by Tagher and Robinson (2016) found that a fear of not progressing to graduation created the highest amount of stress. When schools implement testing policies that are used for tracking or determining promotion or graduation, this is known as high stake testing and has been shown to have negative consequences associated with stress (Tagher & Robinson, 2016). Schools are adopting progression policies to ensure their NCLEX-RN pass rates are at an acceptable percentage (Spurlock, 2006). The curriculum should be designed to promote student success by aligning content to the NCLEX-RN test blueprint (Carrick, 2011). The role of EI may play an integral part in helping nursing students succeed.

Summary and Conclusions

Four major themes were discovered with this literature review. Empirical evidence has demonstrated that EI buffers stress, decreases anxiety, promotes effective communication, and improves nursing performance, all which impact nursing students. Variables that have been found to contribute to NCLEX-RN success are high GPAs, high scores in biology and chemistry, and fundamental nursing courses that are organized and taught by experienced faculty (Simon et al., 2013). Standardized testing such as the ATI predicator exam, has played a vital role in helping faculty identify students who are at

risk of failing the NCLEX-RN exam, thus, allowing for early remediation (Homard, 2013; Kaddoura et al.,2017). Therefore, identifying how EI can influence the ATI NCLEX-RN predictor scores and NCLEX-RN pass rates are important to nursing students and educators. The results of first time NCLEX-RN pass rates represent the quality of the school's program (O'Lynn, 2017). Determining what contributes to academic performance in the classroom, lab, and clinical setting will aid in improving student success (Rice, 2015). This study will identify if EI impacts the results of the ATI NCLEX-RN predictor score and first time NCLEX-RN pass rates.

Nursing students have invested time and money into their education. Therefore, predictors of student success should be at the forefront of nursing education (Strickland & Cheshire, 2017). Emotional intelligence has been widely studied in many disciplines and proven to have a positive influence on student success. A gap in the research exists exploring the relationship that EI may have on these two independent variables: ATI NCLEX predictor scores and first-time NCLEX pass rates. This study will determine if there is a relationship between EI, NCLEX predictor scores, and first-time NCLEX pass rates. Chapter 3 outlines the quantitative research method used to measure the nursing students EI level and the correlation it has with the ATI-NCLEX predictor score and the first-time NCLEX-RN pass rate.

Chapter 3

The purpose of this study was to determine if there is a relationship among EI, the ATI RN Predictor score, and NCLEX-RN FTPRs in ADN'S who have graduated from a nursing program within the past year. The ATI Comprehensive Predictor is an exam used by nursing school personnel and nursing school students to predict success on the NCLEX-RN exam ("ATI Comprehensive Predictor Exam | ATI NCLEX Predictor," 2015). The National Council Licensure Examination Board provides a test to determine if a nursing school candidate is safe to practice as a Registered Nurse. Chapter 3 provided an in-depth discussion of the research design, methodology, sampling procedures, how data will be collected and analyzed, as well as how the threats to internal and external validity will be addressed.

Research Design and Rationale

A quantitative, descriptive correlational approach was used to examine the relationship of EI, the ATI Comprehensive Predictor score, and FTPRs of ADN nurses who have graduated within the last 12 months. I selected this research design by considering the research problem, the question and hypotheses generated from the problem, and the study variables. In this section on research design, the study variables, research design, design related constraints, and rationale for the quantitative research design selected are discussed.

Variables

The predictor variable for this research was EI and the two outcome variables were the ATI Comprehensive Predictor score and the NCLEX-RN FTPRs of ADN nurses

who have graduated within the last 12 months. EI was measured using The Schutte Self-Report Emotional Intelligence Test (SSEIT). The data from the ATI-NCLEX predictor score and the NCLEX-RN result are considered retrospective data and were self-reported by the participants. The ATI Comprehensive Predictor score will be reported by the participant on the demographic sheet. If the participant did not recall his/her ATI Comprehensive Predictor score, the survey ended, and a screen appeared thanking them for their time. Participants also reported NCLEX-RN results on the demographic page.

Research Design

This descriptive, correlational quantitative study was conducted by collecting quantitative data on the variables of EI, ATI-RN Comprehensive Predictor score, and the NCLEX-RN results using internet-based surveys administered to registered nurses who have graduated from an ADN program within the past 12 months. The relationship between the nurses' EI score, their self-reported score on the ATI-RN predictor and the results of their NCLEX-RN exam (reported as nominal data, i.e. pass/fail) was examined. Determining the relationships among variables provides results to answer the following research question: What is the relationship between EI and proficient ATI RN Comprehensive Predictor scores and FTPRs on the NCLEX-RN exam among ADN'S who have graduated within the past 12 months? A descriptive correlational design allowed me to determine what was happening without directly interfering with it (Field, 2015; Polit & Beck, 2010). Therefore, a descriptive, correlational quantitative research design was appropriate to address the research question.

A simple regression analysis was used to assess the nature of the relationship between the ATI NCLEX-RN Comprehensive predictor score and the NCLEX-RN FTPRs with a single predictor variable of EI. Correlation analysis showed the direction and strength of the relationship among variables and regression analysis assessed the strength of EI as a predictor of test performance.

Design-Related Constraints

There are multiple design related constraints when using a descriptive, cross-sectional, correlational quantitative research design. First, because the study was completed at one point in time, I was unable to assess for changes in the predictor variable (EI) that could occur over time.

Second, there were constraints on the scope of the data collected. A correlational, descriptive, quantitative method limits the data to that explored by the selected instrument and demographic items. Although the scope of the study method was limited, I examined the findings for relationships that researchers can explore in later studies. Polit and Beck (2010) explained that nonexperimental research is necessary before interventions can be justified for future research. As a result of this study, future researchers may be able to examine the effects of an intervention intended to support the development of EI in nursing students using a longitudinal design. Lastly, using a correlational descriptive quantitative design may have resource-based restraints. Data collected from a potentially large sample population of nurses will take time to clean and analyze.

Research Design Rationale

A correlational study was the best research design to answer the following research question: What is the relationship between EI and proficient ATI RN Comprehensive Predictor scores and NCLEX-RN FTPRs among ADN'S who have graduated within the past year? Fields (2014) described a correlation study as a method to observe what is happening naturally without any manipulation of variables which is congruent with the proposed research. The cross-sectional, descriptive, correlational quantitative study was the best choice to allow for the time needed to complete the dissertation process. Additionally, the correlational design allowed for the assessment of the relations among variables without reaching conclusions beyond those indicated by the nature of these relationships.

Methodology

Data for this research were collected using a survey-based methodology. The survey was distributed to RNs who have graduated within the last 12 months, have taken the ATI-RN Comprehensive Predictor score while in school, and have taken the NCLEX-RN exam. This section includes the study methodology, population, sample and sampling procedure, procedures for subject recruitment and participation, data collection procedures, instrumentation, and data analysis plan. Finally, I discussed threats to study validity as well as ethical issues related to the study.

Population

The target population were RNs who had graduated from an ADN program within the last year, have taken the ATI Comprehensive predictor, and have taken the

NCLEX-RN exam. According to the Integrated Postsecondary Education Data System, (cited by Buerhaus, Auerbach, & Staiger, 2014), 44,888 people graduated from an ADN program between the years of 2002-2012, therefore the estimated size of the target population was several thousand. The target population was chosen because the ATI NCLEX-RN predictor is typically administered during the final semester of nursing school and students typically seek authorization to test for the NCLEX-RN exam approximately 6 weeks after graduation.

Sampling and Sampling Procedures

Sampling strategy. A nonprobability or convenience sample was used for this study. With a convenience sample, the parameters of the population could not be estimated from the values of the characteristics obtained from the sample (Frankfort-Nachmias, Nachmias, & DeWaard, 2008). Participants were contacted via email using information provided by the state boards of nursing in Ohio and Florida, which is public domain. Once participants were contacted, eligibility was verified through the electronic consent and screening questions. In addition, a link to the survey was posted on Facebook, Linkedin, and Twitter.

Procedure for drawing the sample. The most recent list of registered nurses from the selected states was downloaded to draw the sample.

The data in the spreadsheet file of the RNs in Ohio and Florida were cleaned to remove all nurses who have had a nursing license for more than 12 months, who did not have public email addresses or who were listed as not practicing as RNs. Finally, spreadsheet software functions was used to select a target sample from the filtered list of

potential subjects. The RN who fit the inclusion criteria were sent the study recruitment email.

Inclusion Criteria

The inclusion criteria for study were RNs who had graduated from an ADN program and passed the NCLEX-RN exam within the past year and who took the ATI-RN Comprehensive predictor prior to graduation.

Exclusion Criteria

Participants who had not taken the NCLEX-RN exam or did not take the ATI-RN Comprehensive predictor were excluded from the study. In addition, those who took the ATI-RN exam and did not remember their score were excluded during data collection. Nurses who graduated from a diploma or a baccalaureate nursing program were not included.

Sample Size

To calculate the appropriate sample size, I used the G*power calculator developed by Faul, Erdfelder, Buchner, and Lang (2009). The priori power analysis with the following parameters: α(alpha) 0.05, power of .80, and a large effect size of 0.3 yielded a minimum sample size of 82. The two-tailed *t*-test was estimated by splitting the probability .05 into 2 to ensure .025 at each end of the bell curve to detect differences at both ends. A medium effect size of 0.3 will account for 9% of the total variance (Fields, 2015). The effect size will help to quantify the relationship between two variables. A power of .80 was chosen because it will provide an 80% chance of detecting an effect (Fields, 2015). The Walden IRB allowed me to send out 3 reminder emails over a period

of 3 weeks to remind potential participants of the study. Data were collected for one month. The number of respondents was difficult to predict.

Procedures

Recruitment. When determining how I could recruit recently licensed nurses, I searched the 50 state boards of nursing that license RNs in the United States. Of the 50 states, Ohio and Florida provided email addresses of RN's licensed which were free to the public. Therefore, participants were recruited from Ohio and Florida.

A second recruitment strategy to recruit participants outside of Ohio and Florida, was to post information and a link regarding the study to Facebook, Twitter, and Linkedin, popular forms of social media. However, participants were not be required to have accounts in Facebook, Twitter, or Linkedin. The public post feature on these platforms was enabled, so that others were able to share the public post advertising the study on their Facebook, Twitter, or LinkedIn accounts.

Demographic information was collected as follows:(a) age (b) gender (c) education other than ADN (d) ATI-RN predictor score/probability score (e) experience in healthcare field prior to becoming an RN. The demographic questionnaire developed for the study is in Appendix D.

I planned to collect the data using REDCap (Research Electronic Data Capture). Redcap is a secure web application designed to support data capture for research studies, providing user-friendly web-based case report forms, real-time data entry validation (e.g. for data types and range checks), audit trails, and a de-identified data export mechanism to common statistical packages (SPSS, SAS, Stata, R/S-Plus) (Harris, Thielke, Taylor,

Payne, Gonzalez, & Conde, 2008). The system was developed by a multi-institutional consortium which was initiated at Vanderbilt University and includes The Pennsylvania State University. The database is hosted at the Penn State Hershey Medical Center and College of Medicine data center, which will be used by this researcher as a central location for data processing and management. REDCap data collection projects rely on a thorough study-specific data dictionary defined in an iterative self-documenting process by all members of the research team. This iterative development and testing process results in a well-planned data collection strategy for individual studies. REDCap is flexible enough to be used for a variety of types of research and provides an intuitive user interface for database design and data entry.

The link for the survey was distributed by using REDcap and was posted on the Facebook, LinkedIn, and Twitter, and emailed to RN's in the states of Ohio and Florida. The email contained the inclusion criteria listed as the following questions: (a) Did you graduate within the last 12 months from an ADN program? (b) While in nursing school, did you take the ATI-RN predictor exam? If the individual answers "no" to either question, a screen appeared which thanked them for their time and then closed the survey. If the individual meets inclusion criteria, the consent form appeared on the screen and the participant was asked to read and click on "I consent." The SSEIT (Schutte et al., 1998) appeared for the participant to complete. The SSEIT took approximately five minutes to complete. After the participants completed the information, the survey will close thanking the participants. The ATI –RN Comprehensive Predictor score was reported by the participant when completing the demographic information. If the participant did know

their ATI-RN Comprehensive Predictor score, the survey closed and a screen appeared thanking them for time.

Instrumentation and Operationalization of Constructs

Schutte Self-Report Emotional Intelligence. The SSEIT was used to collect data on EI. The SSEIT (1998) was published by Shutte to measure general (EI), using four sub-scales of emotion perception, utilizing emotions, managing self- relevant emotions, and managing others' emotions. The SSEIT included appraisal and expression of emotion, regulation of emotion, and utilization of emotion (Gong & Paulson, 2018). The literature refers to the SSEIT as various names such as The Assessing Emotions Scale, Emotional Intelligence Scale, and the Self-Report Emotional Intelligence Test (Schutte et al., 2009). The SSEIT is a self-report measure of EI that assesses three aspects of EI: appraisal and expression of emotion, regulation of emotion, and utilization of emotion. Respondents' answer the 33 questions on a Likert type scale from (1) strongly disagree to (5) strongly agree. Scores range from 33 to 165, with higher scores indicating more characteristics of EI (Schutte et al., 2009). I distributed the SSEIT via a secured survey link. Permission to use the SSEIT and a sample of the survey is provided in Appendix A. Jonker and Vsloo (2008) identified that the brevity of the scale and the increasing reliability and validity of the scale, makes it a reasonable choice for measuring EI. In recent years, there have been an abundance of scales to measure EI. The SSEIT(1998) is a measurement that best correlates with intelligence (Shutte et al,1998) and is popular because of its brevity of 33 items (Ng, Wang, Kim and Bodenhorn,2010; Zhoc, et al.,2017). Schutte et al. (1998) found the SSEIT had a high internal consistency

α=.90 and a high test retest reliability (*r* = .78). Stenhouse et al., (2016) conducted a longitudinal quasi experimental study with 598 nursing students at a Scottish University to examine the impact of EI on performance. The authors reported a Cronbach's alpha of 0.858. Zhoc et al. (2017) calculated the SSEIT internal consistency range of .85 to .93 using the McDondald's omega coefficients.

Validity is concerned with assuring the instrument is measuring what it is intended to measure (Frankfort-Nachmias, Nachmias & DeWaard, 2015). Zhoc et al., (2017) found that the convergent validity of the SSEIT as a tool to measure EI was demonstrated by its correlation with the theoretical constructs such as feelings, clarity of feeling, mood repair, optimism and impulse control. Similar findings were reported by Shutte (1998) when they reported the SSEIT was substantially related to greater attention to emotions, greater clarity of emotions, and less alexithymia. In contrast, Brackett and Mayer (2003) questioned the ability of the SSEIT in predicting academic performance based on their research that revealed an inverse relationship with the SSEIT and academic performance.

ATI Comprehensive RN Predictor Score. The use of structured approaches to prepare students to pass the NCLEX-RN exam have become common among schools of nursing (Brodersen & Mills, 2014). The ATI RN Comprehensive Predictor Exam is a 180 item test which offers an assessment of the student's comprehension and mastery of basic principles of nursing (ATI,2016). The probability score gives an estimate of passing NCLEX-RN exam on the first attempt. Brodersen and Mills (2014) conducted a retrospective correlational study to determine the predictive accuracy of the Health

Education Systems, Inc. Exit Exam (Elsevier) and ATI RN Comprehensive Predictor. The researchers used logistic regression to determine that both exams were statistically significant but were weak predictors of success on the NCLEX-RN exam. Furthermore, Brodersen and Mills (2014) reported that the criterion-related validity of the ATI RN Comprehensive Predictor is demonstrated by accuracy indices calculated for each form of the examination based on predicted and actual NCLEX-RN outcomes. The scores of the ATI-RN Comprehensive predictor were measured as continuous data and coded as the actual probability score. An explanation of the scores are listed in Table 1.

NCLEX-RN Results. The NCLEX-RN is the national test Computer Adaptive Test (CAT) given by the National Council of State Boards of Nursing (NCSBN) to candidates that have successfully completed a registered nursing program to determine if they possess the knowledge necessary to be a safe and effective nurse (National Council of State Board of Nursing, 2018). The NCLEX-RN was a dichotomous categorical variable and will be coded in the data file as 1= pass and 0 = fail. The results were of their NCLEX -RN was reported by the participant.

Data Analysis Plan

SPSS version 24 was used to analyze the data. I planned to download the data from the surveys completed by participants from the REDCap system into an Excel spreadsheet which was then uploaded into SPSS. Survey data were stored on an Excel spreadsheet and as a data file within the SPSS program. A copy of the data as a spreadsheet software file is stored on a password protected external hard drive.

I cleaned and screened the study data carefully prior to statistical analysis. The data were de-identified data obtained from the participants. The data were examined to detect any obvious errors, such as results inconsistent with the potential range of responses on the scales (Frankfort-Nachmias, Nachmias & DeWaard, 2015). The survey data was checked for completeness. If there are missing data, the subject will be removed from the study.

The research question and hypotheses for the study were:

What is the relationship between EI and proficient ATI Comprehensive Predictor scores and first time NCLEX-RN pass rates in Associate Degree nurses who have graduated within the past 12 months?

H_0: There is no relationship between EI, proficient ATI Comprehensive Predictor scores and NCLEX-RN FTPRs with RNs who have graduated within the past 12 months.

H_1: There is a relationship between EI, proficient ATI Comprehensive Predictor scores, and NCLEX-RN FTPRs with RNs who have graduated within the past 12 months.

A correlational study is observing what is happening without directly interfering with it (Field, 2005). A correlational design with retrospective data of the ATI-RN Comprehensive Predictor score and the NCLEX-RN FTPRs were used to determine if a statistically significant relationship exists between EI, proficient ATI RN Comprehensive Predictor scores, and NCLEX-RN FTPRs with RNs who have graduated from an ADN program within the past 12 months. Next, a simple regression analysis was used to determine if EI is a predictor of performance on ATI RN Comprehensive Predictor exam and the NCLEX-RN exam. Simple regression was used to predict an outcome from a

single predictor (Field, 2005). For this study, the predictor was the EI score and the two outcome variables are the ATI-RN Comprehensive Predictor score, and NCLEX-RN FTPRs. I planned to display data in a scatterplot that summarizes the relationship among the variables. Demographic data were reported in graphs and tables.

Threats to Validity

External Validity

The use of volunteers for this study posed a potential threat to the external validity of the research by adding potential bias or volunteer bias ("External validity | Laerd Dissertation," n.d.). Volunteer bias reduces the similarity of the findings therefore threatens the ability to make generalizations from the sample to the population ("External validity | Laerd Dissertation" n.d.). Using volunteers for research is unavoidable. A solution to volunteer bias is to ask the participant why they chose to participate which highlighted the extent to which volunteer bias could have decreased the external validity of the findings.

Another potential threat to external validity was if a participant does not recall their ATI Comprehensive Predictor score which can threaten the validity of the data. If a student did not know their ATI Comprehensive Predictor score, this prompted the survey to present a screen thanking the participant for their time and the survey will end.

The selection of the participants presented a threat to external validity since only participants who have taken the ATI NCLEX predictor assessment, graduated from an ADN program, and had taken the NCLEX-RN exam were included. The findings cannot

be generalized to graduates of a BSN program or diploma nursing program or have taken another form of a standardized exit exam that predicts FTPRs for the NCLEX-RN exam.

Internal Validity

Potential threats to internal validity included maturation and history. Maturation refers to the variables occurring during the study (Polit & Beck, 2010). History refers the occurrence of events which can affect the dependent variable (Polit & Beck, 2010). The threat of maturation was controlled by collecting data during a single online session with no further data collection. Attrition, another threat to internal validity was not anticipated to be threaten issue since the data collection period is planned for a time that is convenient for the participants. Likewise, no intervention will be utilized during this research, therefore, there will be no potential threats to diffusion of treatment.

Construct Validity

The measuring instrument, SSEIT, is related to the theoretical framework of the study to ensure construct validity. Because no survey has perfect validity, it is possible that the instrument may not measure EI accurately. Validity and reliability of the SSEIT are high and the threat to construct validity is minimized since the research uses an established tool. One way to manage a potential threat to construct validity is to narrow the concept being researched (Laerd statistics, n.d.). In this case, the broad concept of intelligence has been narrowed to a specific subset of intelligence, EI.

Ethical Procedures

An application to the Walden University Institutional Review Board (IRB) to obtain permission to collect data was completed and submitted. Participants were

recruited via email, Facebook, Linkedin, and Twitter. A survey appeared on the link in the social media programs and an invitation was emailed to the individuals to participate in my study. The invitation to the study is in Appendix C. Each individual was asked if they met the study criteria: (a) graduated from an accredited ADN program with in the last year (b) completed an ATI Comprehensive Predictor assessment, and (c) know their ATI Comprehensive Predictor score, and (d) completed the NCLEX-RN exam within the last year. If the answer to all of these questions was, yes, the participant was directed to a consent form that was signed electronically. The participant was then asked to complete the demographic data sheet. After the participants completed the demographic data, the survey took them to the SSEIT. If the individual did not meet study criteria, a thank you screen appeared and the site closed. The study was voluntary.

The confidentiality of the data is maintained on a password protected computer in a locked office. I placed data on a password protected computer which will be stored in a locked desk. Data located on REDcap is maintained for 21 years.

All data were anonymous. I did not know the identity of the participant. Data was protected on the secured Qualtrics website. Confidentiality was maintained as numbers will be assigned to each participant's survey responses.

Summary

In summary, the purpose of this study was to examine the relationship between EI and proficient ATI-RN Comprehensive Predictor scores and NCLEX-RN FTPRs in Associate Degree nurses who have graduated within the past 12 months. Data were collected from online surveys that were posted on Facebook, LinkedIn, and Twitter.

Emails were also sent to participants in Ohio and Florida. Data was collected in an Excel spreadsheet and transferred to SPSS for analysis. Correlation and a simple regression model was used to analyze the data. The results of my study are reported in Chapter 4.

Chapter 4

The purpose of this quantitative, correlational study was to examine the relationship among EI, the ATI NCLEX-RN Comprehensive Predictor score,NCLEX-RN first time pass rates (FTPRs). The research question was: What is the relationship between EI and proficient ATI-RN Comprehensive Predictor scores and NCLEX-RN FTPRs among ADN'S who have graduated within the past year? The null hypothesis was: There is no relationship between EI, proficient ATI Comprehensive Predictor scores and NCLEX-RN FTPRs with RNs who have graduated within the past 12 months. The alternative hypothesis was: There is a relationship between EI, proficient ATI Comprehensive Predictor scores, and NCLEX-RN FTPRs with RNs who have graduated within the past 12 months.

In this chapter I present the demographics of the sample and a description of the setting and the data collection and analysis. The quantitative data included RNs who had graduated within the past year, had taken the ATI NCLEX-RN predictor, and the NCLEX-RN. In addition, the SSEIT score was also included in the data collected. I presented the results of the study, aligned with the proposed research question. I present the evidence of trustworthiness of this study in the last section of this chapter.

Data Collection

Data were collected via the internet using a survey created in Qualtrics^{xm} from November 6th, 2018 till January 6th, 2019. The survey was distributed via Twitter, Facebook, and LinkedIn. Emails were sent to 16,812 RNs from Ohio and Florida. Emails

of RNs were provided by Ohio State Board of Nursing and the Florida State Board of Nursing. A total of 80 RNs met the criteria.

The only discrepancy in the data collection was the platform used to create the survey. I had originally planned to use REDCap but had to switch to Qualtrics[xm] which is a web-based survey tool to conduct survey research, evaluations, and other data collection activities. The data from Qualtrics[xm] were exported into SPSS version 24.

Description of the Sample

RNs who graduated from an associate degree nursing program and took the NCLEX-RN within the past 12 months and completed the ATI-NCLEX-RN Comprehensive predictor were included in this study. A total of 16,812 emails were sent to potential participants. In addition, the link to the survey was placed on Facebook, Twitter, and LinkedIn. A total of 236,226 graduate nurses took the NCLEX-RN in 2018 (NCSBN, 2018). ATI reported that 51,152 students completed the NCLEX-RN predictor in 2018. Also, of the 80 respondents, only 4 reported failing NCLEX-RN on the first attempt.

According to the NCSBN 2017 workforce survey, 90.9% of RNs were women and 9.1% men. Male respondents increased by 2.5% from 2013-2017. The NCSBN's survey also reported that 81% were white. These numerical findings are congruent with the respondents of my research represented in Tables 1-2.

Results

I had a total of 80 participants. Most of the participants ranged in age from 25-44 (see Table 1). Of the 80 participants, 77.5% were white and 10% Black or African American (see Tables 1-2).

Table 1

Study Participants by Age Table Title

	Age Groups	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-24	17	21.3	21.3	21.3
	25-44	31	38.8	38.8	60.0
	35-44	16	20	20	80.0
	45-64	12	15	15	95.0
	55-64	4	5	5	100
	Total	80	100	100	

Table 2

Study Participants by Race

	Frequency	Percent	Valid Percent	Cumulative Percent
White	62	77.5	77.5	77.5
Black or African American	8	10.0	10.0	87.5
American Indian or Alaska Native	1	1.3	1.3	88.3
Asian	3	3.8	3.8	92.5
Native Hawaiian or Pacific Islander	0	5.0	5.0	97.5
Other	4	5.0	5.0	97.5
Prefer not to answer	2	2.5	2.5	100
Total	80	100	100	

RQ1: “What is the relationship between EI and proficient ATI-RN Comprehensive Predictor scores and NCLEX-RN FTPRs among ADN’S who have graduated within the past year?”

$H_0$1: There is no relationship between EI, proficient ATI Comprehensive Predictor scores and NCLEX-RN FTPRs with RNs who have graduated within the past 12 months.

H_A1: There is a relationship between EI, proficient ATI Comprehensive Predictor scores, and NCLEX-RN FTPRs with RNs who have graduated within the past 12 months.

I analyzed my data using multiple linear regression analysis to evaluate the prediction of ATI predictor scores and NCLEX-RN FTPRs from the EI score, the independent variable.

The results of the multiple linear regression analysis revealed that EI was not a statistically significant predictors to and NCLEX-RN FTPRs. An independent *t*-test was conducted which confirmed the results (*M*=136.09 *SD* 13.04). Table 4 shows the multiple correlation coefficient R^2 for the overall model was 2% with an adjusted R^2 of -.005. The adjusted R^2 is an estimate of effect size. There was independence of residuals as assessed by a Durbin-Watson statistic of 1.835.

Table 3

Model Summary [b]

Model	R	R Square	Adjusted R Square	Durbin-Watson
1	.142 .	. 020	-.005	1.835

a. Predictors: (Constant), ATI Predictor Score, Did you pass the NCLEX -RN on the first attempt
b. Dependent Variable: Emotional Intelligence

Table 4

Summary of Multi Regression Analysis

Variable	*B*	SE_B	β
Did you pass NCLEX-RN on the first attempt	-9.393714	7.809610	-0.148968
ATI Predictor	-0.026087	0.152394	-0.021200

The confidence interval associated with the regression analysis does not contain 0, so there was no association between EI and the ATI-NCLEX-RN predictor score and the NCLEX-RN FTPRs which means the null hypothesis was retained (See Table 5)

Table 5

Relation between EI, ATI NCLEX-RN predictor score and NCLEX RN FTPRs

Model		Sum of Squares	df	Mean Square	F	Sig
1	Regression	302.730	2	151.365	.787	.459[b]
	Residual	14807.470	77	192.305		
	Total	15110.200	79			

a. Dependent Variable: Emotional Intelligence

b. Predictors: (Constant), ATI Predictor Score, Did you pass the NCLEX -RN on the first attempt

The following scatterplots tested for a linear relationship. There was no relationship between EI. and ATI predictor score (see Figure 2).

Figure 2

EI and ATI Predictor score

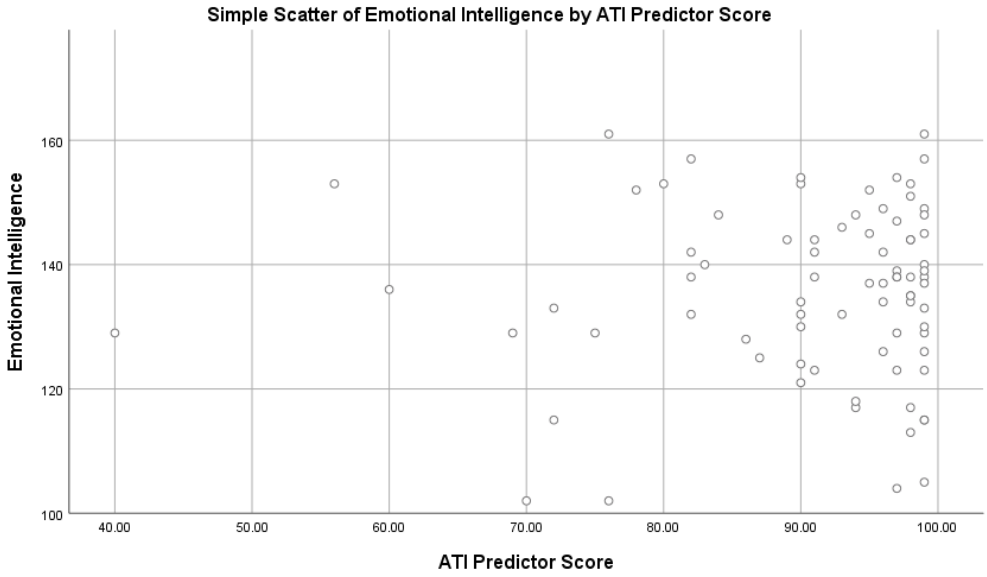
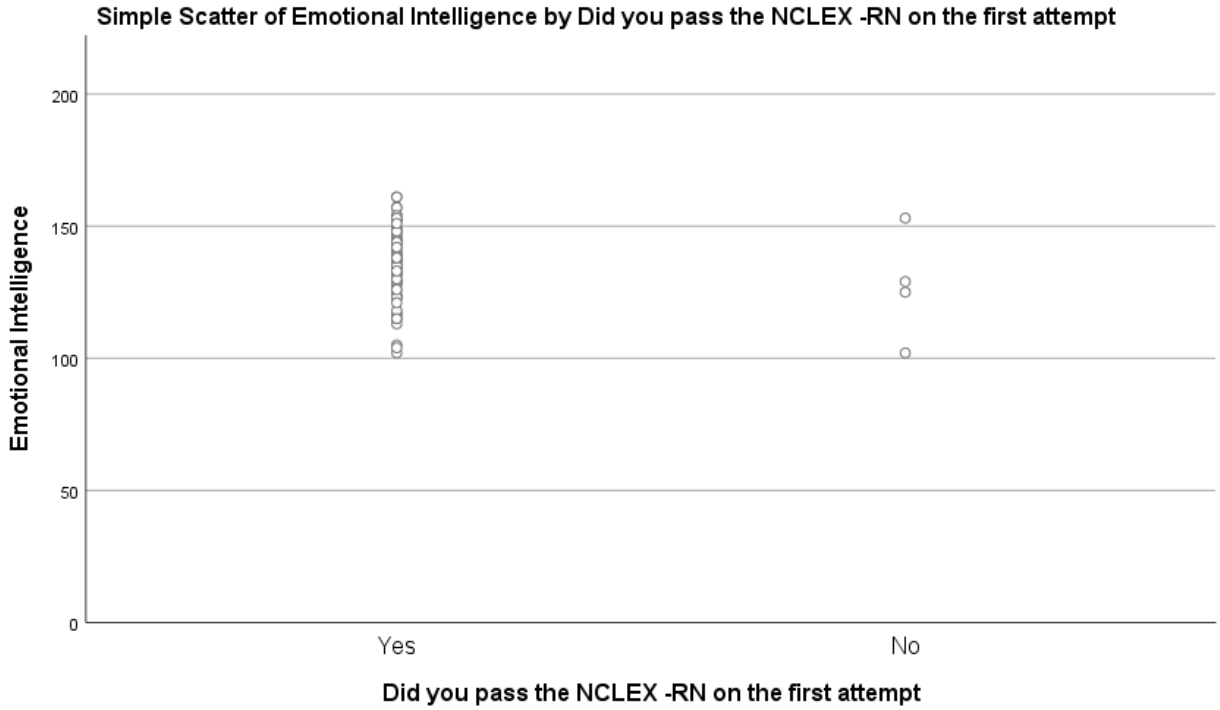


Figure 3

EI and NCLEX-RN FTPRs



The scatterplot graph in Figure 2 shows that only 4 of the participants failed NCLEX-RN on the first attempt. The four that did not pass did have a lower EI than those who passed on the first attempt. There assumption of homoscedasticity was violated as assessed by visual inspection of a plot of EI versus NCLEX-RN FTPRs. This did not affect my results.

Summary

The results of this study did not reach statistical significance. Therefore, findings indicated no relationship between EI, proficient ATI-RN Comprehensive Predictor scores and NCLEX-RN FTPRs with RNs who graduated within the past 12 months. I presented the demographic information of the sample of RNs who graduated from an ADN

program, completed the ATI Comprehensive predictor, and took the NCLEX-RN exam within the last year. Statistical analysis of the multiple linear regression model. Chapter 5 contains the interpretation of findings, the limitations, and recommendations for further studies.

Chapter 5

Introduction

The purpose of this descriptive, correlational study was to determine if there is a relationship among EI, the ATI –RN Comprehensive Predictor score, and FTPRs on the NCLEX-RN among ADNs who have graduated within the past year. The predictor variable was EI. The outcome variables were ATI –RN Comprehensive Predictor score and FTPRs on the NCLEX-RN.

Results revealed EI was not statistically significant between the ATI –RN Comprehensive Predictor score, and FTPRs on the NCLEX-RN among ADNs who have graduated within the past year.

Interpretation of Findings

The framework of this study was based on Mayer and Salovey's (1990) Emotional Intelligence Theory. The concept of EI consists of four domains: (a) self-awareness, (b) facilitating thought (c) understanding emotions, and (d) managing emotions (Salovey & Mayer, 1990). The self-awareness and the management of emotions domain includes competencies necessary for successful learning (Salovey & Mayer, 1990).

Although studies examining EI and academic performance have been conducted, no studies represented the relationship between EI, proficient ATI-RN predictor scores, and NCLEX-RN FTPRs with RNs who have graduated within the past 12 months. Educators and researchers agree that EI is a significant predictor of academic

achievement (Cassady, & Heller, 2017; Fernandez et al., 2012: Sharon & Grinberg, 2018).

A similar study was conducted by Rode and Brown (2019) in which they examined if EI was related to the Kaplan Nursing Assessment Test (NAT) and NCLEX-RN success. Similar to the ATI NCLEX-RN predictor assessment, the Kaplan NAT is a standardized assessment to determine a student's readiness for the NCLEX-RN that is available for nursing schools to purchase. Rode and Brown (2019) used the Mayer-Salovey-Caruso Emotional Intelligence Test 2.0 (MSCEIT 2.0) to measure EI. and found that understanding emotion was the most relevant indicator of the Kaplan NAT and NCLEX-RN FTPRs. Although Brown and Rode (2019) had only a 73% response rate, the results of both studies extended the understanding of EI as a predictor of NCLEX-RN FTPRs.

In addition to a positive correlation between the level of EI and academic success, Sharon and Gringberg (2018) found that high scores with psychometric exams and GPA had less of an impact on nursing students success than EI scores and GPA which are deciding factors for admission to nursing programs. The findings of my study did not support those of Sharon and Gringberg (2018). In contrast, Romeo (2013) found that scores from standardized assessments and GPA are the most significant predictors of NCLEX-RN FTPRs.

Although my study only included the relationship of EI and FTPRs, there is empirical evidence that EI does impact other aspects of nursing. Higher levels of EI have also been shown to improve clinical performance and quality of patient care but EI is a

learned competency (Adams & Iseler,2014; Codier, Kooker, & Shoultz, 2008; Di Lorenzo, Venturelli, Spiga, & Ferri, 2019; Sharon & Grinberg, 2018). In contrast to other researchers, Orak et al. (2016), found that EI education did not influence EI scores.

Kaya, Şenyuva, and Bodur (2017) conducted research to determine the development of critical thinking and EI of nursing students. Their results confirmed that critical thinking skills can be developed over time. Elder (1997) established that critical thinking influences the quality of EI. Both critical thinking and EI embrace rational decision making while providing safe and effective care to patients in a very fluent environment. Kaya, Şenyuva, and Bodur (2017) discovered empirical evidence that critical thinking and EI are qualities that contribute to the success of nursing students, therefore, suggested they be integrated into nursing curriculum. However, the results of my study did not support the findings of Senyuva and Bodur (2018) and Kaya, Senyuva, and Bodure (2017). The NCSBN (2018) reported that problem solving and critical thinking were linked to more than 30% of tasks performed by entry level nurses. Meng and Qi (2018) found that EI intervention decreases stress and improves communication skills. In a similar study (Enns, Eldridge, Montgomery, & Gonzalez, 2018) researched the effect of the relationship between EI and perceived stress with 203 university students majoring in psychology, nursing, and social work. Their results built upon the outcomes of Meng and Qi (2018) which found that increasing EI may help to reduce stress, therefore expecting students to perform better during high stakes testing. The results of my study were not congruent with my findings.

Limitations of the Study

A limitation of this study was using only participants who had taken the ATI RN Comprehensive Predictor which resulted in a low response rate. The study was also limited to RNs who have graduated from an ADN nursing program from December 2017 to December 2018 and included only two states. Dr. T. Juve stated ATI reported that 59,042 BSN students and 1,842 Diploma nursing students completed the ATI NCLEX-RN comprehensive predictor (personal communication, Jan,10,2019). The sample for my study was 80, therefore it may not have represented the population of nurses. The findings cannot be generalized to graduates of a BSN program or diploma nursing program or have taken another form of a standardized exit exam that predicts FTPRs for the NCLEX-RN exam.

Another limitation of my study was including participants who had already graduated from an ADN program. Because EI can change over time (Sharon & Grinberg, 2018), different results may have been obtained if only nursing students in their final semester of school were included.

Recommendations

While the findings from my study were not statistically significant, the evidence does contribute to the existing body of knowledge and provides a platform for future studies. More research which includes RNs who graduate from all types of nursing programs is needed to establish if EI influences the success of nursing students is needed. Brown and Rode (2019) suggested that enhancing the nursing curriculum to include EI training in perceiving and understanding emotions may be beneficial to the success of

nursing students. Additional studies could include a mixed methods research design to investigate common themes of nursing students concerning what contributed to success or failure in passing the NCLEX-RN. Future studies could involve collecting the quantitative data from the SSCEIT scale along with the demographic information and then add qualitative data from discussions about their experiences with standardized tests and what the student thinks contributes to NCLEX-RN success. Although I found no relationship between EI and FTPRs on the NCLEX-RN, further research evaluating critical thinking and EI could provide further insight into the value of these traits.

In addition, a longitudinal study that includes EI training beginning the first semester of nursing school and extending into the first year of employment as an RN may provide insight into how EI education can affect the attrition rate of the first-year students and their job satisfaction once employed.

Implications

Nurses have a significant impact on patient care which can result in positive social change. EI has some impact on the quality of care of patients receives (Adams & Iseler, 2014). [EH1] An understanding of what contributes to the success of nursing students' FTPR on the NCLEX-RN is paramount to understanding their success as nurses and contributes to positive social change. In 1997, Mayer and Salovey proposed that Emotionally Intelligent people can perceive emotions accurately, use emotions to accurately facilitate thought, understand emotions and able to manage their own emotions. The ability of a student to control one's emotions and accurately facilitate

thought during a high stakes assessment such the NCLEX exam may contribute to a FTPR.

Conclusion

There is a need to explore what teaching strategies nursing faculty can implement to foster clinical judgment which may be linked to a nursing student's level of EI. The need for clinically competent nurses that have the clinical judgement as well as the abilities included with EI is an essential element of nursing. The knowledge gained from this study involved statistical data about EI scores, proficient ATI-RN Comprehensive Predictor scores and NCLEX-RN FTPRs. Empirical data related to EI requires additional investigation. Although my research did not provide statistical evidence that EI was related to the ATI-NCLEX-RN predictor score and NCLEX-RN FTPRs, there were limitations to my research. Further research is needed to establish the long-term effects that EI training has on the nursing profession.

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Appendix A: Permission to use the SSEIT

Nicola Schutte <nschutte@une.edu.au>
Yesterday, 10:20 PM Debra Wallace

Thank you for your message.

You are welcome to use the scale.

Please find attached the manuscript version of a published chapter that contains the scale and background information, including regarding scoring, reliability and validity.

Kind regards, Nicola Schutte

From: Debra Wallace
Sent: Monday, 4 June 2018 10:42 AM
To: Nicola Schutte <
Subject: Permission to use SSEIT

Greetings,

My name is Debra Wallace. I am a doctorate of Nursing Education student at Walden University.

I am working on my dissertation and am studying EI and its relationship to nursing students pass their national examination. I am inquiring about the SSEIT and the possibility of using your survey in my research. If you could provide permission for the use of your survey and any pertinent information you feel could help me in this endeavour I would greatly appreciate.

Thank you in advance for your consideration in this request.

Debra Wallace

Appendix B: Schutte's Self-Report of Emotional Intelligence

Directions: Each of the following items asks you about your emotions or reactions associated with emotions. After deciding whether a statement is generally true for you, use the 5-point scale to respond to the statement. Please click on the "1" if you strongly disagree that this is like you, the "2" if you somewhat disagree that this is like you, "3" if you neither agree nor disagree that this is like you, the "4" if you somewhat agree that this is like you, and the "5" if you strongly agree that this is like you. There are no right or wrong answers. Please give the response that best describes you.

1 = strongly disagree
2 = somewhat disagree
3 = neither agree nor disagree
4 = somewhat agree
5 = strongly agree

1. I know when to speak about my personal problems to others.	1 2 3 4 5
2. When I am faced with obstacles, I remember times I faced similar obstacles and overcame them.	1 2 3 4 5
3. I expect that I will do well on most things I try.	1 2 3 4 5
4. Other people find it easy to confide in me.	1 2 3 4 5
5. I find it hard to understand the non-verbal messages of other people.	1 2 3 4 5
6. Some of the major events of my life have led me to re-evaluate what is important and not important.	1 2 3 4 5
7. When my mood changes, I see new possibilities.	1 2 3 4 5
8. Emotions are one of the things that make my life worth living.	1 2 3 4 5
9. I am aware of my emotions as I experience them.	1 2 3 4 5
10. I expect good things to happen.	1 2 3 4 5
11. I like to share my emotions with others.	1 2 3 4 5
12. When I experience a positive emotion, I know how to make it last.	1 2 3 4 5

13. I arrange events others enjoy.	1	2	3	4	5
14. I seek out activities that make me happy.	1	2	3	4	5
15. I am aware of the non-verbal messages I send to others.	1	2	3	4	5
16. I present myself in a way that makes a good impression on others.	1	2	3	4	5
17. When I am in a positive mood, solving problems is easy for me.	1	2	3	4	5
18. By looking at their facial expressions, I recognize the emotions people are experiencing.	1	2	3	4	5
19. I know why my emotions change.	1	2	3	4	5
20. When I am in a positive mood, I am able to come up with new ideas.	1	2	3	4	5
21. I have control over my emotions.	1	2	3	4	5
22. I easily recognize my emotions as I experience them.	1	2	3	4	5
23. I motivate myself by imagining a good outcome to tasks I take on.	1	2	3	4	5
24. I compliment others when they have done something well.	1	2	3	4	5
25. I am aware of the non-verbal messages other people send.	1	2	3	4	5
26. When another person tells me about an important event in his or her life, I almost feel as though I experienced this event myself.	1	2	3	4	5
27. When I feel a change in emotions, I tend to come up with new ideas.	1	2	3	4	5
28. When I am faced with a challenge, I give up because I believe I will fail.	1	2	3	4	5
29. I know what other people are feeling just by looking at them.	1	2	3	4	5

30. I help other people feel better when they are down. 1 2 3 4 5

31. I use good moods to help myself keep trying in the face of obstacles. 1 2 3 4 5

32. I can tell how people are feeling by listening to the tone of their voice. 1 2 3 4 5

33. It is difficult for me to understand why people feel the way they do. 1 2 3 4 5

Appendix C: Demographics

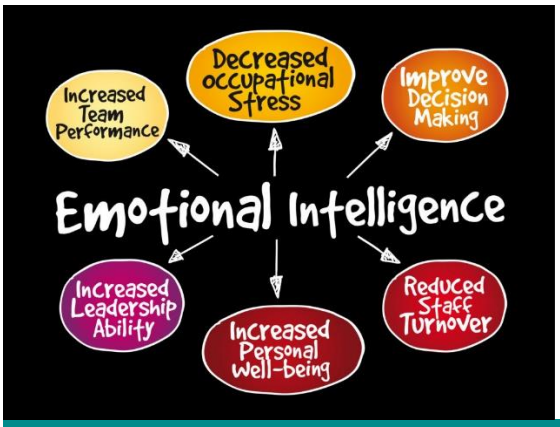
Did you graduate from an ADN PROGRAM?
Did you take an ATI-RN predictor assessment prior to graduation?
Have you taken the NCLEX-RN exam within the last year?

Must answer yes to all of these questions.
If no to any of these the survey will end

What was your ATI-RN probability of passing NCLEX?
Age
Gender
Race
Did you work in the healthcare field prior to becoming an RN?
In addition to an ADN, do you have any other college degrees?

Did you pass the NCLEX –RN on the first attempt?

Appendix D: Information Flyer



The Title of the study is The Relationship between Emotional Intelligence and the ATI-RN Predictor Score and First-time NCLEX-RN pass rates

The study involves a taking a 5 minute survey that measures your Emotional intelligence.

Volunteers Needed

You are invited to participate in research focused on the relationship of EI and academic success.

If you are interested in participating in this survey or if you have any questions please contact:
Debra Wallace MSN, RN

You are eligible if you:

- Graduated from an ADN program within the past year
- Have taken the NCLEX-RN exam within the last year- October, 2017?
- Completed the ATI-RN- comprehensive predictor exam while you were a nursing student.

The results of this study will provide nurse educators a better understanding of how EI can increase nursing student success.